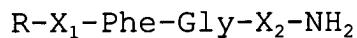


IN THE CLAIMS

Amend claim 1, and cancel claims 20-40 without prejudice, as follows:

1. (amended) A compound of the formula



wherein X_1 is selected from the group consisting of Asn, Asp, Gly, Ser, and Ala, and X_2 is selected from the group consisting of Leu and Ile, and R is selected from the group consisting of:

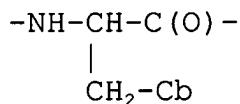
(a) $\text{Cb}-(\text{CH}_2)_n-\text{C}(\text{O})-\text{X}_3'$ -

wherein

(I) Cb is a carborane,

(ii) n is 1, 2, or 3, and

(iii) X_3' is selected from the group consisting of a bond, Tyr, Phe, and carboranyl alanine, said carboranyl alanine having the structure:



(b) $R_1-L_m-X_4-R_2-X_3-$

wherein

(I) X_4 is selected from the group consisting of a bond and Arg,

(ii) R_1 is a hydrophobic moiety selected from the group consisting of aromatic containing amine groups, aromatic containing acyl groups, and aliphatic fatty acyl groups, said hydrophobic moiety being effective to render said compound amphiphilic,

(ii) m is 0 or 1,

(iii) L is a spacer which, when R_1 is an aromatic containing acyl group or aliphatic fatty acyl group, said spacer is selected from the group consisting of non-polar hydrocarbon groups having an amino group and an acyl group, and uncharged α -amino acids, or when R_1 is an aromatic containing amine group, said spacer is a diacyl group,

(iv) R_2 is selected from the group consisting of a bond, an amino acid, and a polypeptide group, said polypeptide group comprising all or a portion of an allatostatin neuropeptide which is naturally contiguous to the C terminal pentapeptide $X_3-X_1\text{-Phe-Gly-}X_2\text{-NH}_2$,
wherein said X_1 is selected from the group consisting of Asn, Asp, Gly, Ser, and Ala, and said X_2 is selected from the group consisting of Leu and Ile, and which
said polypeptide group is sufficiently small as to

retain the hydrophobicity of said compound introduced by said R₁ hydrophobic moiety ~~said hydrophobic moiety~~, and

(v) X₃ is selected from the group consisting of Tyr, Phe, and carboranyl alanine; and

(c) R₃-carboranyl alanine-, wherein R₃ is selected from the group consisting of H and Arg.

2. (original) The compound of claim 1 wherein R is said Cb-(CH₂)_n-C(O)-X₃'-.

3. (original) The compound of claim 2 wherein said carborane is selected from the group consisting of *o*-carborane and *m*-carborane.

4. (original) The compound of claim 1 wherein R is said R₁-L_m-X₄-R₂-X₃-.

5. (original) The compound of claim 4 wherein R₂ is a bond.

6. (original) The compound of claim 4 wherein R₂ is selected from the group consisting of:

-Leu-,

-Ala-Tyr-Ser-Tyr-Val-Ser-Glu-Tyr-Lys-Arg-Leu-Pro-Val-,

-Ser-Lys-Met-,

-Asp-Gly-Arg-Met-,

-Asp-Arg-Leu-,

-Ala-Arg-Pro-,

-Ala-Pro-Ser-Gly-Ala-Gln-Arg-Leu-,

-Gly-Gly-Ser-Leu-,

-Gly-Asp-Gly-Arg-Leu-,

-Pro-Val-Asn-Ser-Gly-Arg-Ser-Ser-Gly-Ser-Arg-,

-Tyr-Pro-Gln-Glu-His-Arg-, and

-Pro-.

7. (original) The compound of claim 4 wherein R₁ is a hydrophobic aromatic containing acyl group, m is 1, and L is selected from the group consisting of non-polar hydrocarbon groups having a free amino group and free acyl group, and uncharged α -amino acids.

8. (original) The compound of claim 7 wherein R₁ is selected from the group consisting of phenyl alkanoic acyl groups, phenyl alkenoic acyl groups, and phenyl alkynoic acyl groups.

9. (original) The compound of claim 8 wherein R₁ is selected from the group consisting of a 9-fluoreneacetic acid group, a 6-phenyl hexanoic acyl group, and a 9-phenyl nonanoic acyl group.

10. (original) The compound of claim 7 wherein L is selected from the group consisting of Ala, Ala-Ala, and Gly.

11. (original) The compound of claim 4 wherein R₁ is a hydrophobic aromatic acid and m is 0.

12. (original) The compound of claim 11 wherein R₁ is selected from the group consisting of phenyl alkanoic acyl groups, phenyl alkenoic acyl groups, and phenyl alkynoic acyl groups.

13. (original) The compound of claim 12 wherein R₁ is selected from the group consisting of a 9-fluoreneacetic acid group, a 6-phenyl hexanoic acyl group, and a 9-phenyl nonanoic acyl group.

14. (original) A composition comprising the compound of claim 1 and an inert carrier.

15. (original) The composition of claim 14 wherein said carrier is water.

16. (original) A method for controlling insects comprising applying the compound of claim 1 to the locus of said insects.

17. (original) The method of claim 16 wherein said insects are cockroaches.

18. (original) The method of claim 16 wherein said applying comprises topically applying said compound onto said insects.

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19. (original) The method of claim 17 wherein said compound is applied in an amount effective to inhibit juvenile hormone production by said insect.

20-40. (cancelled).